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PATENT  
Customer No. 22,852  
Attorney Docket No. 05725.0637-00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: )  
 )  
David W. CANNELL et al. ) Group Art Unit: 1617  
 )  
Application No.: 09/820,954 ) Examiner: S.J. Sharareh  
 )  
Filed: March 30, 2001 )  
 ) Confirmation No. 7371  
For: COMPOSITIONS COMPRISING AT LEAST )  
ONE AMINATED C<sub>5</sub>-C<sub>7</sub> SACCHARIDE )  
UNIT, AND THEIR USE FOR THE )  
PROTECTION AND/OR REPAIR OF )  
KERATINOUS FIBERS )

**Mail Stop Appeal Brief--Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

Further to the Notice of Appeal filed August 23, 2005, and pursuant to 37 C.F.R. § 41.37, Appellants present this brief and enclose herewith a check for the fee of \$500.00 required under 37 C.F.R. § 41.20(b)(2). The period for filing the appeal brief has been extended four months to February 23, 2005, by the accompanying petition and fee.

02/17/2006 JADD01 00000009 09820954

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This appeal is in response to the final Office Action dated March 23, 2005 ("Final Office Action"), rejecting claims 78 and 79, which are set forth in section VIII, Claims Appendix, of this paper.

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**I. Real Party In Interest**

L'Oréal S.A. is the assignee of record.

**II. Related Appeals and Interferences**

Appellants, Appellants' undersigned legal representative, and L'Oréal S.A. know of no other appeals or interferences which will directly affect, be directly affected by or have a bearing on the Board's decision in the pending appeal.

### **III. Status Of Claims**

Claims 1-37, 39-57, and 59-79 are pending in this application. Claims 1-36, 40, 42, 44-46, 50-57, 59, 64, and 65 were withdrawn pursuant to a Restriction Requirement issued on February 22, 2002, as being directed to the non-elected subject matter.

Claims 37, 39, 41, 43, 47-49, 60-63, and 66-77 were withdrawn pursuant to an Election Requirement issued on March 23, 2004, as being directed to non-elected species.

Therefore, claims 78 and 79 have been finally rejected. Final Office Action, page 1.

A Pre-Appeal Brief Request for Review was filed on August 23, 2005. The Office maintains the rejection of claims 78 and 79. Notice of Panel Decision from Pre-Appeal Brief Review dated September 8, 2005.

**IV. Status Of Amendments**

No claims have been amended in response to or subsequent to the Final Office Action.

**V. Summary Of Claimed Subject Matter**

Claim 78 of the present invention recites a composition for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising:

at least one glucosamine, and

at least one additional sugar, said at least one additional sugar being different from glucosamine and comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group, wherein said at least one additional sugar is chosen from monosaccharides and oligosaccharides,

wherein said at least one glucosamine is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber.

Claim 79 of the present invention recites a composition for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising:

at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group, wherein said at least one compound is chosen from polysaccharides, and

at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit

substituted with at least one amino group and derivatives thereof, wherein said at least one additional sugar is unsubstituted,

wherein said at least one compound is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber.

Further, other claims of the present invention, which are withdrawn, are directed to compositions, kits comprising these compositions, and methods for using these compositions for repairing or for protecting from extrinsic damage at least one keratinous fiber, including human keratinous fibers, by applying to the at least one keratinous fiber the compositions comprising at least one compound which comprises at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group, and heating the keratinous fibers. Specification, page 1, lines 1-6.

One embodiment of the present invention, as recited in independent claim 1 (withdrawn), is directed to a method for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising applying to said at least one keratinous fiber a composition comprising at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group; and heating said at least one keratinous fiber; wherein said at least one compound is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber; and further wherein said composition is applied prior to said heating or during said heating. *Id.* page 5, lines 3-11.



Another embodiment of the present invention, as recited in independent claim 37 (withdrawn) is directed to a composition for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group, wherein said at least one compound is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber,

with the provisos:

that the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is not glucosamine, and

if the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the at least one amino group is unsubstituted.

A further embodiment of the present invention, as recited in independent claim 71 (withdrawn), is directed to a kit for protecting at least one keratinous fiber from extrinsic damage or for repairing at least one keratinous fiber following extrinsic damage comprising at least one compartment,

wherein said at least one compartment comprises a composition comprising at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group,

wherein said at least one compound is present in said composition in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber, and

with the provisos:

that the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is not glucosamine, and

if the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the at least one amino group is unsubstituted.

An additional embodiment of the present invention, as recited in independent claim 73 (withdrawn), is directed to a composition for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group, wherein said at least one compound is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber, and further wherein said composition is heated during or after application to at least one keratinous fiber,

with the proviso:

that the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is not glucosamine, and

that when the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the at least one amino group is unsubstituted.

**VI. Grounds of Rejection To Be Reviewed on Appeal**

Review of one ground of rejection is sought in this appeal. In the Final Office Action, pages 2-5, the Examiner has maintained the rejection of claims 78 and 79 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,866,142 to Riordan (*"Riordan"*).

## VII. Argument

Each claim of the present application is separately patentable, and upon issuance of a patent will be entitled to a separate presumption of validity under 35 U.S.C. § 282. The arguments set forth below are arranged under subheadings, and in accordance with 37 C.F.R. § 41.37(c)(1)(vii), these subheadings indicate the claim whose patentability is argued separately.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” M.P.E.P. § 2131 (quoting *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)) (emphasis added). Further, a rejection under § 102 is proper only when the claimed subject matter is identically described or disclosed in the prior art. *In re Arkley*, 455 F.2d 586, 587, 172 U.S.P.Q. 524, 526 (CCPA 1972) (emphasis added).

The Examiner has failed to establish that each and every element in claims 78 and 79 of the present invention is either expressly or inherently described in *Riordan*.

The Examiner alleges that “*Riordan* discloses compositions comprising N-acetyl-D-glucosamine and hyaluronic acid” (citing abstract; col. 7, lines 20-55; claims 13, 20-21). Office Action dated July 14, 2004, page 3. Further, the Examiner alleges that hyaluronic acid “is a aminosaccharide comprising glucosamine and gluc[ur]onic acid meets the instant component of a different aminosugar that is different from glucosamine and comprise[s] at least one C5-C7 saccharides unit with at least one amino group.” *Id.* at pages 3-4; Final Office Action, page 4. Therefore, the Examiner

concludes that *Riordan*'s composition inherently possesses the ability "to protect at least one keratinous fiber against extrinsic damage." Office Action dated July 14, 2004, page 4. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

**A. Claim 78 is not anticipated by *Riordan***

*Riordan* does not anticipate claim 78, because *Riordan* does not expressly or inherently teach "the at least one glucosamine" as recited in claim 78 of the present invention. Instead, *Riordan* merely teaches a composition comprising, among other ingredients, N-acetyl-D-glucosamine. See *Riordan*, col. 7, lines 16-44. N-acetyl-D-glucosamine, a derivative of glucosamine, is different from the at least one glucosamine recited in claim 78 of the present invention.

One example of the at least one glucosamine as recited in claim 78 is glucosamine HCl, which is disclosed in Examples 2-4 of the present invention. Specification, pages 25-29. Contrary to the Examiner's allegation, Applicants never suggested that the "'at least one glucosamine' is only directed to glucosamine HC[I] as used in Example 2." See Final Office Action, page 3. Instead, glucosamine HCl is merely one example of glucosamine salts, belonging to "the at least one glucosamine" as recited in claim 78.

Therefore, in view of the present disclosure, the term "glucosamine" recited in claim 78 should be construed as including the compound glucosamine itself and the salts thereof, such as glucosamine HCl used in Examples 2-4 of the present invention. Further, as one of ordinary skill in the art understands in view of the present

specification, the term “glucosamine” does not include glucosamine’s derivatives, such as N-acetyl-D-glucosamine disclosed in *Riordan*.

However, in maintaining this rejection, the Examiner apparently tries to make the term “glucosamine” recited therein equivalent to the term “glucosamine and the derivatives thereof” by allegedly giving “claims their broadest reasonable interpretation in light of the supporting disclosure.” Final Office Action, pages 3-4. Applicants respectfully disagree.

By using the term “glucosamine” instead of the term “glucosamine’s derivatives” in the present claim 78, and in view of the use of the term “derivatives” in other claims and in the specification when derivatives were intended to be recited, Applicants clearly indicate the scope of the protection they seek. “It is for the inventor to decide what *bounds* of protection he will seek.” *In re Johnson*, 558 F.2d 1008, 1019, 194 U.S.P.Q. 187, 196 (CCPA 1977) (emphasis original).

Further, the disclosures of the present specification cited by the Examiner in the Final Office Action at pages 3-4, for example, page 17, lines 4-5, 15-20 and page 18, lines 12-15<sup>1</sup> of the present specification are for the “C5 to C7 saccharide unit,” *i.e.*, a component of the “at least one additional sugar” as recited in present claim 78. Therefore, those disclosures do not support the Examiner’s allegation that the term

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<sup>1</sup> The Examiner states, in the Final Office Action, pages 3-4, that “[s]ee for example the instant specification at page 18, lines 15-19 where it describes ‘In one embodiment . . .’” However, such a quotation appears in the present specification at page 18, lines 12-15.

“glucosamine” recited in claim 78 is equivalent to the term “glucosamine and the derivatives thereof.”

Accordingly, as *Riordan* does not teach each and every element in claim 78, this section 102(b) rejection is improper and should be reserved and withdrawn.

**B. Claim 79 is not anticipated by *Riordan***

*Riordan* also does not anticipate claim 79, because *Riordan* does not expressly or inherently teach the “at least one additional sugar . . . being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group and derivatives thereof, wherein said at least one additional sugar is unsubstituted” as recited in claim 79 of the present invention. (Emphasis added).

First, claim 79 clearly recites that the at least one additional sugar is different from “said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group and derivatives thereof.” In other words, the “at least one additional sugar” as recited in present Claim 79 does not include the “C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group and derivatives thereof.”

Most importantly, *Riordan* does not expressly or inherently teach at least one additional sugar that is unsubstituted. The C<sub>6</sub> saccharide unit in N-acetyl-D-glucosamine is substituted with an amino group and derivatives thereof. Therefore it is a substituted sugar. Similarly, as shown in Merk Index 7<sup>th</sup> ed. pages 751-752, which was cited by the Examiner in the Final Office Action, page 4, (a copy of which was provided by the Examiner in the record), the C<sub>6</sub> saccharide unit in hyaluronic acid is substituted with an amino group and derivatives thereof. Thus, hyaluronic acid is also a

substituted sugar. Therefore, neither N-acetyl-D-glucosamine nor hyaluronic acid disclosed in *Riordan* falls within the scope of the “at least one additional sugar,” which is “unsubstituted” as recited in claim 79.

Accordingly, as *Riordan* does not teach each and every element in claim 79, this section 102(b) rejection is improper and should be reserved and withdrawn.

### **Conclusion**

In view of the foregoing, Appellants respectfully request that the outstanding §102(b) rejection be reversed and withdrawn.



## VIII. Claims Appendix

1. (withdrawn) A method for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising applying to said at least one keratinous fiber a composition comprising at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group; and heating said at least one keratinous fiber; wherein said at least one compound is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber; and further wherein said composition is applied prior to said heating or during said heating.

2. (withdrawn) A method according to claim 1, wherein said composition is applied prior to and during said heating.

3. (withdrawn) A method according to claim 1, wherein said at least one amino group is chosen from unsubstituted amino groups and substituted amino groups.

4. (withdrawn) A method according to claim 1, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is further substituted with at least one group different from said at least one amino group.

5. (withdrawn) A method according to claim 1, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is substituted with said at least one amino group at C1 of said saccharide unit.

6. (withdrawn) A method according to claim 1, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is substituted with said at least one amino group at C2 of said saccharide unit.

7. (withdrawn) A method according to claim 1, wherein said at least one compound is chosen from C<sub>5</sub> monosaccharides substituted with at least one amino group, C<sub>6</sub> monosaccharides substituted with at least one amino group, C<sub>7</sub> monosaccharides substituted with at least one amino group, polymers comprising at least one C<sub>5</sub> monosaccharide substituted with at least one amino group, polymers comprising at least one C<sub>6</sub> monosaccharide substituted with at least one amino group, polymers comprising at least one C<sub>7</sub> monosaccharide substituted with at least one amino group, and glycoproteins comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

8. (withdrawn) A method according to claim 7, wherein said C<sub>5</sub> monosaccharides substituted with at least one amino group are chosen from pentosamines.

9. (withdrawn) A method according to claim 8, wherein said pentosamines are chosen from aldopentosamines and ketopentosamines.

10. (withdrawn) A method according to claim 9, wherein said pentosamines are chosen from xylosamine, arabinosamine, lyxosamine, ribosamine, ribulosamine and xylulosamine.

11. (withdrawn) A method according to claim 7, wherein said C<sub>6</sub> monosaccharides substituted with at least one amino group are chosen from hexosamines.

12. (withdrawn) A method according to claim 11, wherein said hexosamines are chosen from aldohexosamines and ketohexosamines.

13. (withdrawn) A method according to claim 12, wherein hexosamines are chosen from glucosamine, galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, galactosamine, and talosamine.

14. (withdrawn) A method according to claim 7, wherein said C<sub>7</sub> monosaccharides substituted with at least one amino group are chosen from heptosamines.

15. (withdrawn) A method according to claim 14, wherein said heptosamines are chosen from aldoheptosamines and ketoheptosamines.

16. (withdrawn) A method according to claim 1, wherein said at least one compound is chosen from oligosaccharides derived from said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

17. (withdrawn) A method according to claim 1, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from furanoses and derivatives thereof.

18. (withdrawn) A method according to claim 1, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units.

19. (withdrawn) A method according to claim 18, wherein said derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units are chosen from imine derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units,

hemiacetal derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units, hemiketal derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units, and oxidized derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units.

20. (withdrawn) A method according to claim 18, wherein said derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units are further substituted with at least one group different from said at least one amino group.

21. (withdrawn) A method according to claim 1, wherein said at least one compound is chosen from lyxosylamine.

22. (withdrawn) A method according to claim 1, wherein said at least one compound is chosen from glucosamine.

23. (withdrawn) A method according to claim 1, wherein said at least one compound is chosen from galactosamine.

24. (withdrawn) A method according to claim 1, wherein said at least one compound is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

25. (withdrawn) A method according to claim 24, wherein said at least one compound is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

26. (withdrawn) A method according to claim 1, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group and derivatives thereof.

27. (withdrawn) A method according to claim 26, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

28. (withdrawn) A method according to claim 27, wherein said monosaccharides are chosen from hexoses.

29. (withdrawn) A method according to claim 28, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

30. (withdrawn) A method according to claim 26, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

31. (withdrawn) A method according to claim 30, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

32. (withdrawn) A method according to claim 1, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

33. (withdrawn) A method according to claim 1, wherein said at least one keratinous fiber is hair.

34. (withdrawn) A method according to claim 1, wherein the extrinsic damage is caused by heating, UV radiation, or chemical treatment.

35. (withdrawn) A method according to claim 1, wherein said composition protects said at least one keratinous fiber from extrinsic damage and repairs at least one keratinous fiber following extrinsic damage.

36. (withdrawn) A method according to claim 1, wherein said composition further comprises at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers, plant oils, mineral oils, and synthetic oils.

37. (withdrawn) A composition for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group, wherein said at least one compound is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber,

with the provisos:

that the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is not glucosamine, and

if the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the at least one amino group is unsubstituted.

38. (canceled).

39. (withdrawn) A composition according to claim 37, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from monosaccharides and oligosaccharides, and the at least one amino group is chosen from unsubstituted amino groups and substituted amino groups.

40. (withdrawn) A composition according to claim 37, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is further substituted with at least one group different from said at least one amino group.

41. (withdrawn) A composition according to claim 37, wherein said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from monosaccharides and oligosaccharides, and the at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is substituted with said at least one amino group at C1 of said saccharide unit.

42. (withdrawn) A composition according to claim 37, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is substituted with said at least one amino group at C2 of said saccharide unit.

43. (withdrawn) A composition according to claim 37, wherein said at least one compound is chosen from C<sub>5</sub> monosaccharides substituted with at least one amino group, C<sub>6</sub> monosaccharides substituted with at least one amino group, C<sub>7</sub> monosaccharides substituted with at least one amino group, polymers comprising at least one C<sub>5</sub> monosaccharide substituted with at least one amino group, polymers comprising at least one C<sub>6</sub> monosaccharide substituted with at least one amino group, polymers comprising at least one C<sub>7</sub> monosaccharide substituted with at least one

amino group, and glycoproteins comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

44. (withdrawn) A composition according to claim 43, wherein said C<sub>5</sub> monosaccharides substituted with at least one amino group are chosen from pentosamines.

45. (withdrawn) A composition according to claim 44, wherein said pentosamines are chosen from aldopentosamines and ketopentosamines.

46. (withdrawn) A composition according to claim 45, wherein said pentosamines are chosen from xylosamine, arabinosamine, lyxosamine, ribosamine, ribulosamine and xylulosamine.

47. (withdrawn) A composition according to claim 43, wherein said C<sub>6</sub> monosaccharides substituted with at least one amino group are chosen from hexosamines.

48. (withdrawn) A composition according to claim 47, wherein said hexosamines are chosen from aldohexosamines and ketohexosamines.

49. (withdrawn) A composition according to claim 48, wherein hexosamines are chosen from galactosamine, allosamine, altrosamine, mannosamine, gulosamine, idosamine, galactosamine, and talosamine.

50. (withdrawn) A composition according to claim 43, wherein said C<sub>7</sub> monosaccharides substituted with at least one amino group are chosen from heptosamines.



51. (withdrawn) A composition according to claim 50, wherein said heptosamines are chosen from aldoheptosamines and ketoheptosamines.

52. (withdrawn) A composition according to claim 37, wherein said at least one compound is chosen from oligosaccharides derived from said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group.

53. (withdrawn) A composition according to claim 37, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from furanoses and derivatives thereof.

54. (withdrawn) A composition according to claim 37, wherein said at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units.

55. (withdrawn) A composition according to claim 54, wherein said derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units are chosen from imine derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units, hemiacetal derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units, hemiketal derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units, and oxidized derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units.

56. (withdrawn) A composition according to claim 54, wherein said derivatives of C<sub>5</sub> to C<sub>7</sub> saccharide units are further substituted with at least one group different from said at least one amino group.

57. (withdrawn) A composition according to claim 37, wherein said at least one compound is chosen from lyxosylamine.

58. (canceled).

59. (withdrawn) A composition according to claim 37, wherein said at least one compound is chosen from galactosamine.

60. (withdrawn) A composition according to claim 37, wherein said at least one compound is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

61. (withdrawn) A composition according to claim 60, wherein said at least one compound is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

62. (withdrawn) A composition according to claim 37, further comprising at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group and derivatives thereof.

63. (withdrawn) A composition according to claim 62, wherein said at least one additional sugar is chosen from monosaccharides, oligosaccharides and polysaccharides.

64. (withdrawn) A composition according to claim 63, wherein said monosaccharides are chosen from hexoses.

65. (withdrawn) A composition according to claim 64, wherein said hexoses are chosen from allose, altrose, glucose, mannose, gulose, idose, galactose, talose, sorbose, psicose, fructose, and tagatose.

66. (withdrawn) A composition according to claim 62, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.01% to 10% by weight relative to the total weight of the composition.

67. (withdrawn) A composition according to claim 66, wherein said at least one additional sugar is present in said composition in an amount ranging from 0.1% to 5% by weight relative to the total weight of the composition.

68. (withdrawn) A composition according to claim 37, wherein said composition is in the form of a liquid, oil, paste, stick, dispersion, emulsion, lotion, gel, or cream.

69. (withdrawn) A composition according to claim 37, wherein said at least one keratinous fiber is hair.

70. (withdrawn) A composition according to claim 37, wherein said composition further comprises at least one suitable additive chosen from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, fragrances, penetrating agents, antioxidants, sequestering agents, opacifying agents, solubilizing agents, emollients, colorants, screening agents, preserving agents, proteins, vitamins, silicones, polymers, plant oils, mineral oils, and synthetic oils.

71. (withdrawn) A kit for protecting at least one keratinous fiber from extrinsic damage or for repairing at least one keratinous fiber following extrinsic damage comprising at least one compartment,

wherein said at least one compartment comprises a composition comprising at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group,

wherein said at least one compound is present in said composition in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber, and

with the provisos:

that the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is not glucosamine, and

if the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the at least one amino group is unsubstituted.

72. (withdrawn) A kit according to claim 71, wherein said composition further comprises at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group and derivatives thereof.

73. (withdrawn) A composition for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group, wherein said at least one compound is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber, and further wherein said composition is heated during or after application to at least one keratinous fiber,

with the proviso:

that the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is not glucosamine, and

that when the at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit is chosen from polysaccharides, then the at least one amino group is unsubstituted.

74. (withdrawn) A composition according to claim 73, wherein said composition is heated to above 80°C.

75. (withdrawn) A composition according to claim 74, wherein said composition is heated to above 100°C.

76. (withdrawn) A composition according to claim 73, wherein said composition is heated by heat styling the at least one keratinous fiber.

77. (withdrawn) A composition according to claim 76, wherein said heat styling is chosen from flat ironing, curling at elevated temperatures, blow drying, hood drying, heat capping, and steaming.

78. (previously presented) A composition for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising:

at least one glucosamine, and

at least one additional sugar, said at least one additional sugar being different from glucosamine and comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group, wherein said at least one additional sugar is chosen from monosaccharides and oligosaccharides,

wherein said at least one glucosamine is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber.

79. (previously presented) A composition for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising:

at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group, wherein said at least one compound is chosen from polysaccharides, and

at least one additional sugar, said at least one additional sugar being different from said at least one compound comprising at least one C<sub>5</sub> to C<sub>7</sub> saccharide unit substituted with at least one amino group and derivatives thereof, wherein said at least one additional sugar is unsubstituted,

wherein said at least one compound is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber.

**IX. Evidence Appendix**

Merk Index 7<sup>th</sup> ed., pages 751-752, which was cited by the Examiner in the Final Office Action, page 4 (a copy of which was provided by the Examiner in the record).

**X. Related Proceedings Appendix**

None.

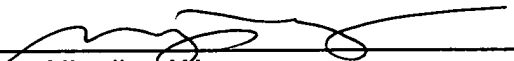


Please grant any extensions of time required to enter this Brief and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: February 16, 2006

By:   
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